

This book is all about submarines and space, skeletons
and sound, and lots of other exciting **S's**.

a Golden Book

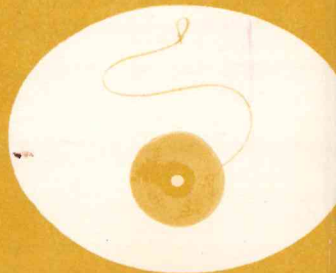
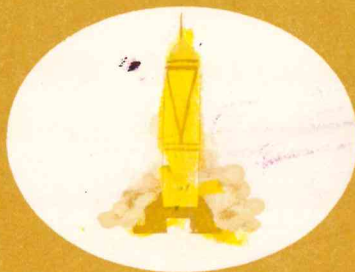


This
Golden Book
belongs to



Alice

~~Jane~~



MY FIRST GOLDEN LEARNING LIBRARY

THE SECOND BOOK OF



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signal



A signal gives news.
Or it tells someone
what to do.

A policeman signals
with his hand
for cars to stop — or go.



A trainman signals
with a lantern
for the train
to start or wait.



Some people signal
by beating
on drums.

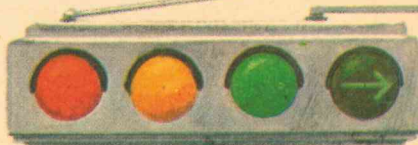
Others blow horns.
Some people signal
with fire
or smoke.



Ships signal
to other ships.



They signal with flags
and lights
and radio.




Traffic lights
are signals.
So are the lights
on lighthouses.

Your mother may signal
with a wave of her arm
when she wants you
to come.


Your father may signal
with a shake of his head
when he wants you to stop.
You know their signal language
and understand.

silk

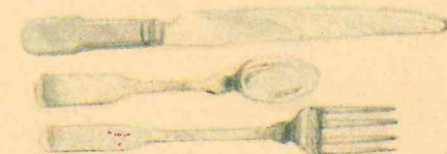


Silk comes from cocoons
silkworms spin.
Silkworms are the
caterpillars of certain moths.
Silkworms feed
on mulberry leaves.
Then they spin cocoons.
When they come out
of the cocoons
they are full-grown moths.
Many cocoons are gathered
before the moths come out.
These cocoons are cooked
until they are soft.
Their fine soft thread
is unwound.
Several of the fine threads
are spun together
to make stronger ones.
Then many of them are woven
into silk cloth.
(See *cloth* in the C book.)

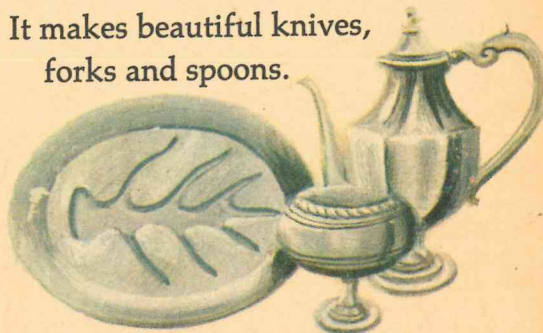
silver



Silver is a metal.
It is shiny.
And it is soft for a metal.
Mix one part copper
with nine parts silver.
You have sterling silver.
It is harder than pure silver.



It makes beautiful knives,
forks and spoons.



It makes beautiful bowls,
platters and teapots.
And it is used in coins.
Silver makes jewelry, too.
But it gets dark easily.
We say it tarnishes.
Then it must be polished.

skeleton



Many animals have bones.
Their bones make up
their skeletons.

(See *bone* in the B book.)

A skeleton gives an animal
its shape.

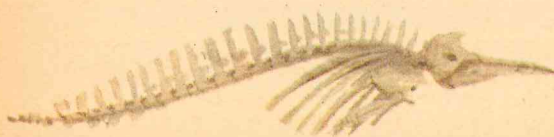
Some of the bones
of the skeleton
protect soft parts.

The bones we call ribs
make a sort of cage
for the soft parts inside.

The skull is a thick box
of bone.

It protects the brain
and eyes and ears.

And the bones of the skeleton
help the animal move.



sky

The sky is
all around the earth.



In the daytime
the sky looks blue.

(See *day* in the D book.)

The air scatters
the blue color
from the sunlight
all over the sky.

That is why the sky looks blue.

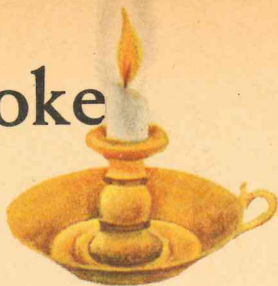
Water looks blue
because it mirrors
the blue sky.



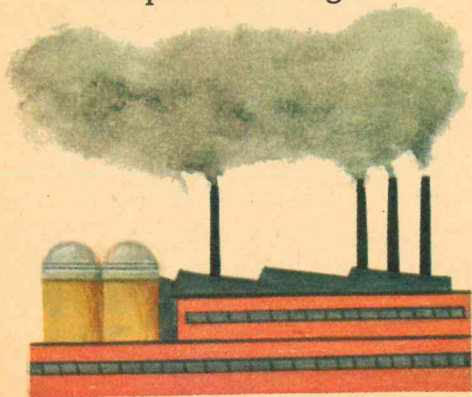
We may see clouds in the sky.
(See *cloud* in the C book.)
At the end of the day,
the sun shining on clouds
gives us a lovely sunset.
Then the sun disappears.
The sky darkens.
We say night falls.

Now we can see stars
and sometimes the moon.
In the daytime
bright sunlight
hides the stars from us.
Sometimes we can see
the moon in the daytime.
But then it is very pale.
(See *moon* in the M book.)
(See *star* in this book.)

smoke



Smoke rises from a fire.
When anything burns,
it turns into something new.
Wood turns into ashes
and gases.
The smoke from the wood
is made mostly of the gases.
Some smoke is white.
But smoke may have
bits of ash
and soot in it.
They make it gray or black.
Gray smoke from factories
may make a city dirty.
If it mixes with fog,
it helps make smog.

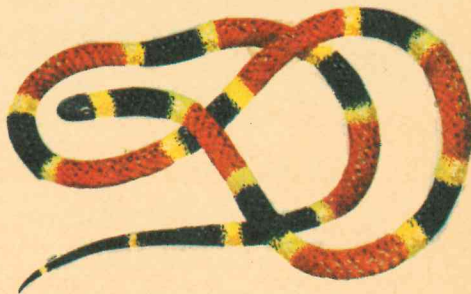


snail



A snail is a small,
soft animal
that has a hard shell.
The shell is coiled up.
Some snails live on land.
Some live in the sea.
And some live in fresh water.
Garden snails may eat
our plants.

snake



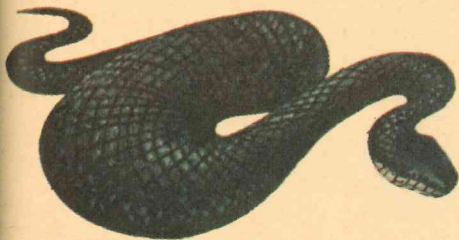
A snake is a reptile.
It cannot walk
But it can move
by wriggling its backbone.
It can swim, too.

And it can climb.

A snake can move very fast.

Snakes cannot close their eyes.

They have no eyelids.



A snake can eat in one bite
an animal much bigger
than it is.

Some snakes eat rats and mice.

Some eat toads and frogs.

Some snakes eat insects.

Most snakes do not harm
people.

But a few have poison fangs.

Some snakes are only
a few inches long.

Some are many feet long.

All snakes are cold-blooded.

When the weather gets chilly,
they curl up in a sheltered
spot and go to sleep.

Not many snakes live in places
with long, cold winters.

(See *reptile* in the R book.)

snow



Snow falls only

when the air is cold.

Like rain, it falls from clouds.

(See *cloud* in the C book.)

Snow falls in flakes.

They are made up

of tiny bits of ice

in pretty six-sided shapes.



Snowflakes may make a thick
blanket on the ground.

They protect plants and seeds.

So farmers like some snow
on their fields in winter.

But too much snow
may block country roads.

In the city snow is a bother
to most people.

It makes walking and driving
hard.

Snow is fun to play in.

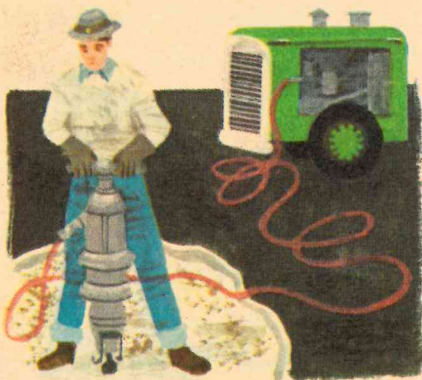
It is fun to make snowmen
and throw snowballs
and play with sleds.

It is fun to go skiing, too.

sound

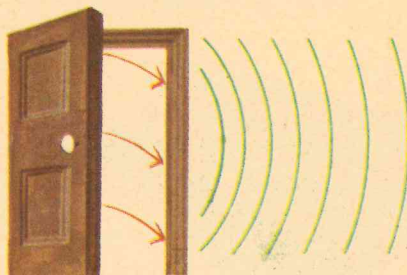


We hear sound.
Some sounds
make pleasing patterns.
We call them music
or musical sounds.



Some sounds are not
so pleasant.
We call them noise.

Every sound comes from
some movement.
It must be a back-and-forth
kind of movement.



Slam a door.
It shakes back and forth.
We say it vibrates.
This shaking or vibration
moves the air around it.
The air moves in waves,
like the ripples on a pool
if you throw a stone in.
These waves in the air
are called sound waves.



When the waves reach our ears,
our eardrums vibrate.
And we hear the sound.

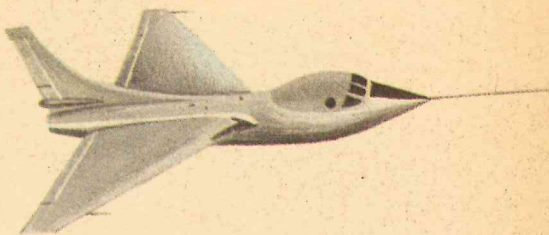
Some sounds are louder
than others.

A lion's roar is louder
than a mouse's squeak.

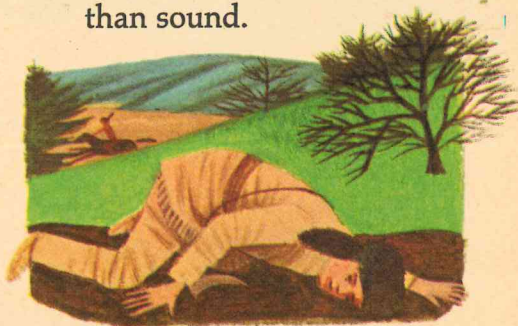
Some sounds are higher
than others.



Sound waves travel in air
at the rate of
about 750 miles per hour.
But most sound waves
do not travel many miles.



Some planes fly faster
than sound.

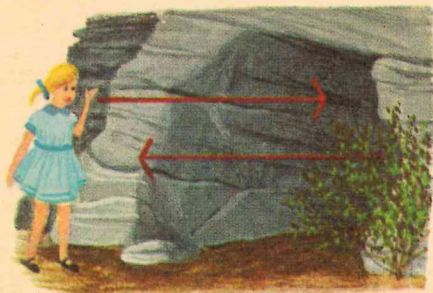


A mouse's squeak is higher
than a lion's roar.

Sound waves can move
around corners.

They can move
through some walls.

They can bounce back
from other walls.



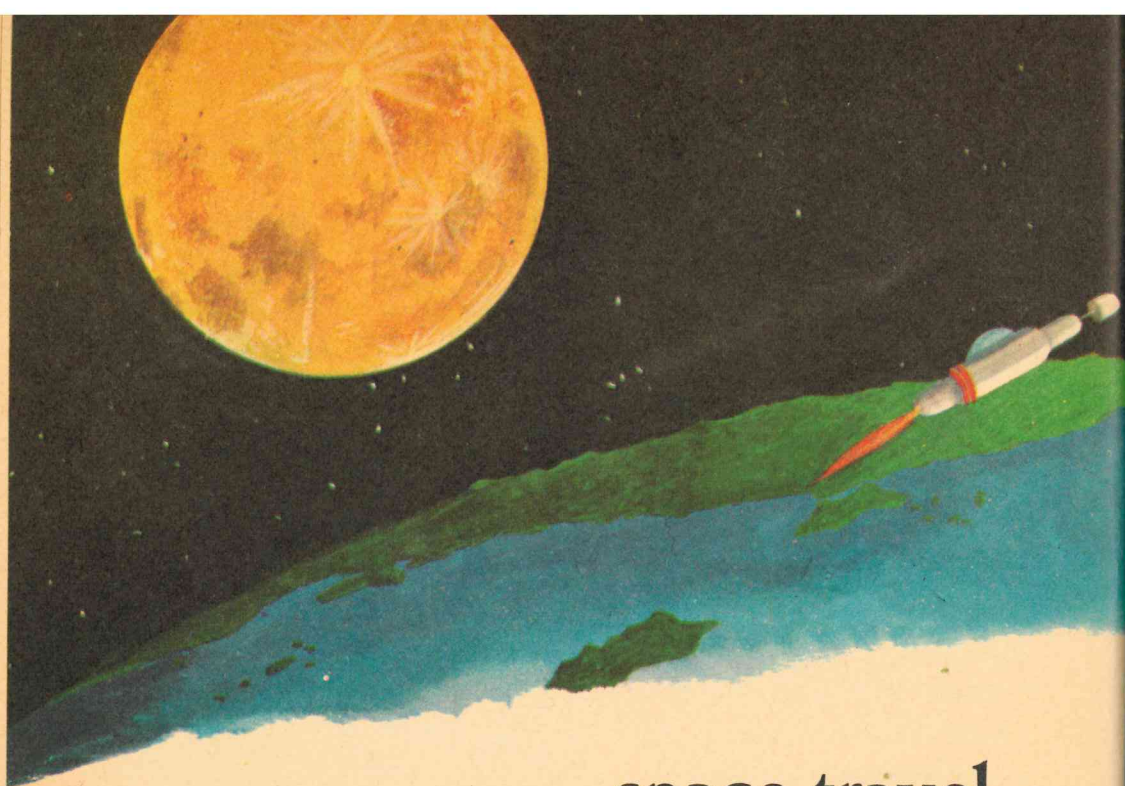
When sound waves bounce
back, we call them echoes.

Sound waves travel faster
in water or in metal
than they do in air.

Sound waves cannot travel
in empty space.

There is nothing to vibrate
there.

So there is not a sound
in space.



space travel

space

Space is the huge emptiness
that stretches
between the stars.

We often call it outer space.

Out in space
there are other planets.

There are moons, too,
and bits of this and that.

But most of space is emptiness.

Men want to learn
more about space.

They want to travel
to other planets.

(See *planet* in the P book.)

Airplanes travel in the air
around the earth.

Spaceships are to go out
where there is no air.

Space stations will be built
out in space.

(See *rocket* in the R book.)



Space travelers will need
to take air and food
and water with them.

They will not be able
to stop for any on the way.

They may grow food
in little gardens
in the spaceship.

They will have machines
to make water and air
pure again.

In space there is
no up or down.

You cannot pour a glass
of water in space.

The water will not fall down
into the glass.

Space travelers will have
to drink water
from "squeeze bottles."

You cannot keep your feet
on the floor in space
without help.

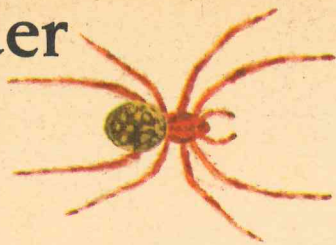
Space travelers will be
belted into place.

Or they will float around
in the cabin of the ship.

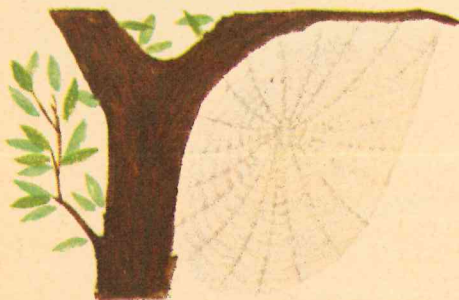
There is no day or night
in space.

Travel in space will be
a real adventure.

spider



A spider spins a web.
A thread of very strong,
thin silk comes out
from the spider's body.
This silk makes the web.
Some spider webs
are very beautiful.



Some threads are sticky.
They catch insects
for the spider's food.
A spider is rather like
an insect.
But it is not one.
It has eight legs
instead of six.
It has no feelers.
And a spider never has wings.

spinning



A spider spins silk
from its body.
So does a silkworm.
People use tools to spin.
In spinning we start
with thin, short threads
or hairs of cotton
or linen
or wool.
They are called fibers.
We twist the fibers together.



We may use a hand spindle.
We may use a spinning wheel
or a spinning machine
to turn a spindle.
The turning spindle
does the twisting.
The twisted fibers
hold together
in a long, strong thread.
(See also *cloth* and *weaving*.)

stamp



A stamp is a small
piece of paper.
It has a sticky, gummed back.
You stick a stamp on a letter.
It tells that you have paid
for the letter
to be sent
through the mail.
We call it a postage stamp.
(See *letter* in the L book.)
(See *mail* in the M book.)



Each country
has its own
postage stamps.
Many stamps have
tiny, pretty pictures
on them.



Some show
the ruler
of the country.

Some show
people
of the country.

Some show
pretty places
in the country.

Many people collect
postage stamps.

They keep them
in books
called stamp albums.

Some stamps are stuck
on bottles
or boxes
or packages.

They tell
that a tax
has been paid.

They are called
revenue stamps.

Some stores give
trading stamps.

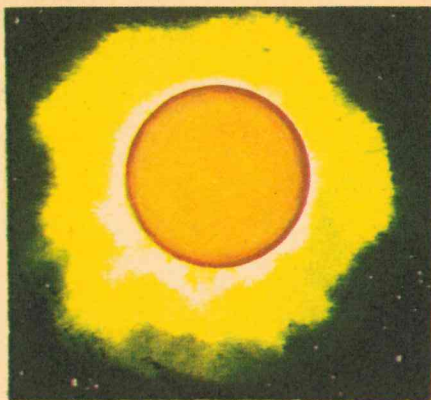
Trading stamps tell
that we have bought things.

We save them in an album.

When the album is full,
we can trade it for something.



star



Stars shine in the sky.
The star we know best
is our sun.
It is closest to the earth.
When the sun shines on us,
its light is so bright
that we cannot see
any other star.



At night the sun's light
does not shine on us.
So we can see other stars.
(Look up *day* and *sky*.)
Stars are not really star-shaped.

They are all round like the sun.
We draw them star-shaped
because they twinkle.
Many stars are as big
and as fiery hot
as the sun.
Some are even bigger
and some are even hotter.
But all stars except our sun
are so very, very far away
that we see them
as just dots of light.

Some stars are red.

Some are orange.

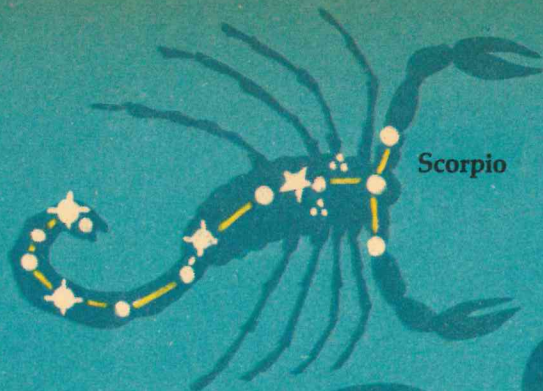
Some are yellow.

Some are white.

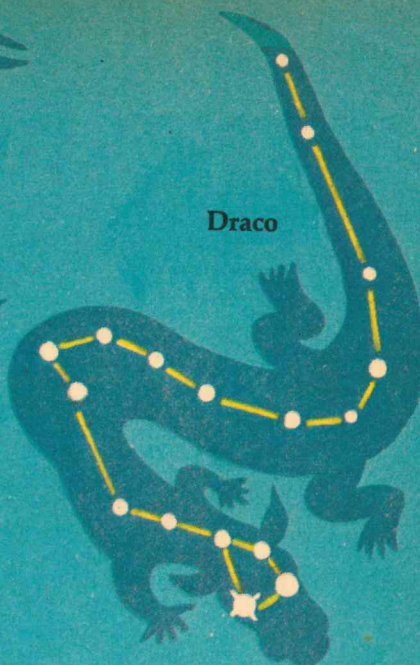
Some are a little blue.



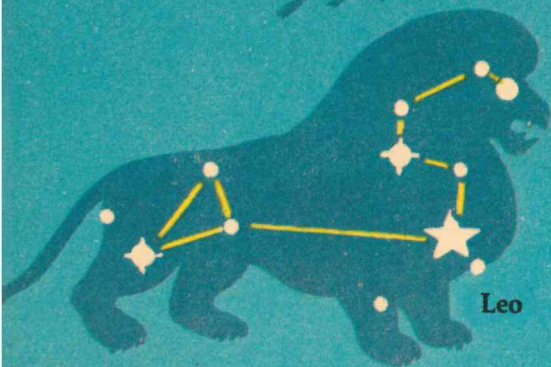
The blue stars are hottest.
White stars are next hottest.
But even red stars
are hotter
than we can imagine.



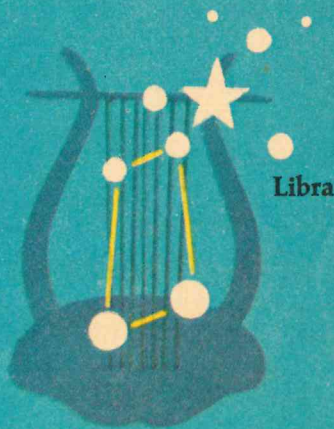
Scorpio



Draco



Leo



Libra



Big Dog

People in olden times
saw pictures in the stars
and told stories about them.

Here are some
of the pictures they saw.
Maybe you can find
some of them
in the sky at night.

A few bright "stars" we see
are not really stars.

They are planets like our earth.
(Look up *planet* in the P book.)

steam



When water gets boiling hot
it turns to steam.

The steam may form
a little cloud in the air.

Steam takes up more room
than the water it comes from.



If a tight cover is put
on a pan of water
and the water is boiled,
the steam will push
the cover up.

In a steam engine,
steam pushes against
part of the engine
and makes wheels turn.

It can even make a train run.

(See *engine* in the E book.)

(See *locomotive* in the L book.)

steel



Steel is made of iron.

(See *iron* in the I book.)

Some carbon is added.

Then the mixture is heated
until it melts.

The big mills

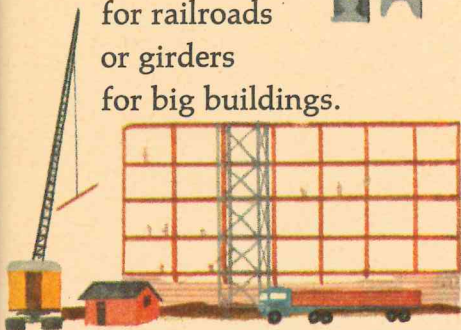
where steel is made

have huge furnaces.



Their fires glow
night and day.

Steel is rolled
into flat strips.
Or it is shaped
into rails
for railroads
or girders
for big buildings.

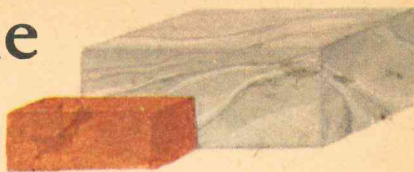


Big buildings today
have skeletons of steel.
Where we have bones
to make us strong
they have girders of steel.
The girders are long beams
put together
with red-hot rivets
instead of nails.
Strong tools are made
of steel, too.

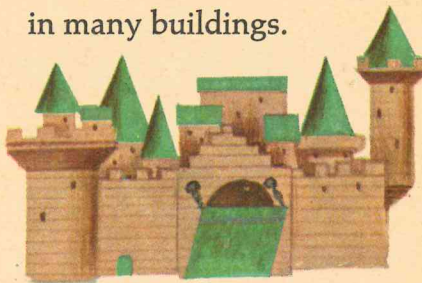


Swords for fighting men
in days of old
were made of steel.
That was the first use of steel.

stone



Stone is used
in many buildings.



Before the days of steel
all big, strong buildings
were built of stone.
Sometimes the walls were
many feet thick.
Pieces of stone
have also been used

as tools,



as weapons,



as money



and
as ornaments.





storm

When a wild wind blows,
or thunder crashes,
or rain or snow,
sleet or hail falls,
we have a storm.

Storms may do a great deal
of harm.



In a dust storm,
the wind blows away
dry soil
from farmers' fields.

In a sandstorm, the wind
blows clouds of sand
across a desert.



The sand feels like needles
when it hits.

In a blizzard,
the wind
blows the falling snow
and piles it up in drifts.



A blizzard can block
all the streets in a city.
It can even close schools!



A rainstorm brings rain
and often wind, too.
Streams may flood their banks.

In a hurricane,
the wind is very strong.
A hurricane begins
over the sea.
It sometimes moves on
to the land.
Wind rushes in from all sides.

But at the center
of the hurricane
there is no wind.
This quiet center
is called the "eye"
of the hurricane.

There is often hard rain
with a hurricane, too.

In a tornado,
the wind
whirls in a circle.

A tornado moves very fast.

As it passes a spot
it quickly sucks up
roofs,
cars,
trees and
furniture.



A waterspout
is a tornado at sea.
It sucks up water
in its whirling wind.

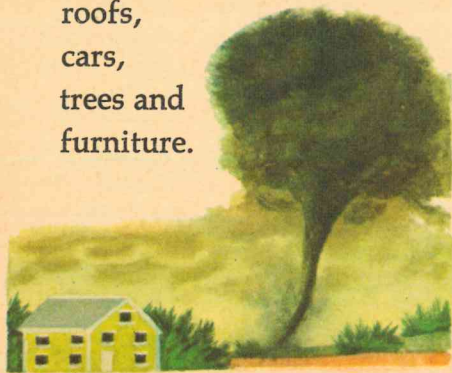
A thunderstorm
is an electrical storm.

Lightning flashes
and thunder roars.

The lightning may start fires.

There may be gusty winds
strong enough
to break branches
or even uproot trees.

Rain usually falls.



An ice storm comes
with a very cold rain.
The rain turns to ice
on streets,
on trees,
on buildings.
Every stem is coated
with ice.
When the sun shines,
the whole world glitters.

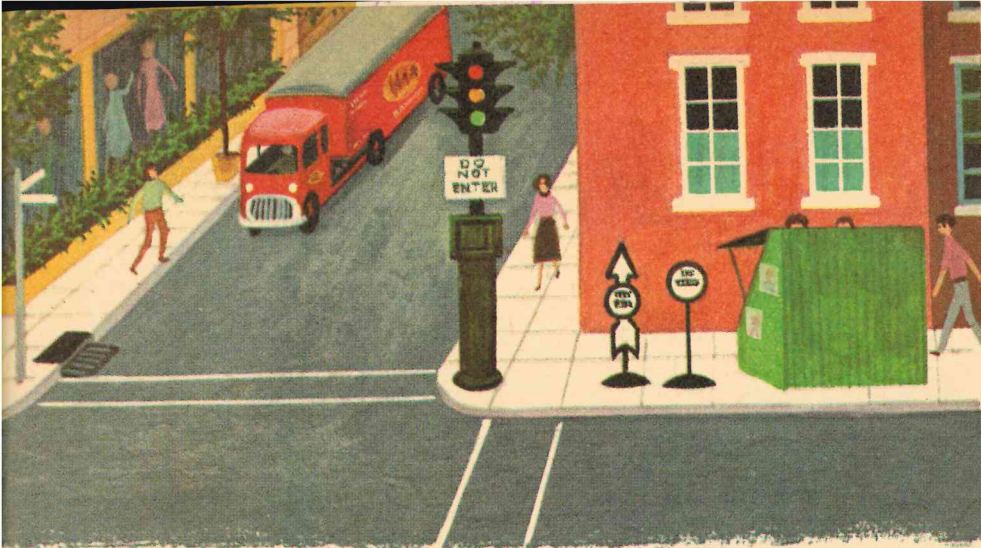


Everything seems to be made
of shining glass.
But the ice is heavy.
It breaks branches.
It flattens plants.
It snaps wires.
An ice storm is beautiful
for a little while.
But the harm it does
lasts a long time.



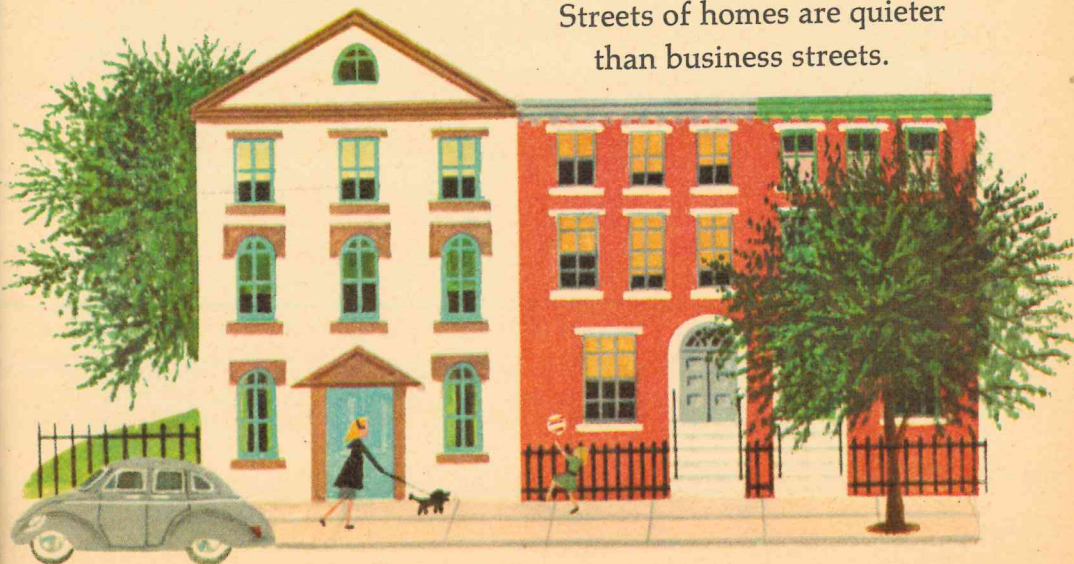
street

A street is a road
in a city or town.
(See *road* in the R book.)
A business street
has shops and stores
along it.
People come to shop.
They buy things they need
and want.
There are sidewalks
for people to walk on.
At a corner
there may be a stop sign.
Or there may be a traffic light.
It tells cars and people
when to wait
and when to go.



Some streets
are one-way streets.
All cars must go
in the same direction
on one-way streets.
Signs tell you
when a street is "one-way."

Some streets are called avenues.
Some fine, wide streets
are called boulevards.
Many streets have houses
and lawns and trees
along them
instead of shops.
Streets of homes are quieter
than business streets.



submarine

Sub-marine means under-sea.

A submarine is a ship
that travels under water.

A submarine must have
an engine to move it
through the water.

The engine pumps in water
to make the ship go down.

It pumps out water
when the ship is ready
to come up to the surface.

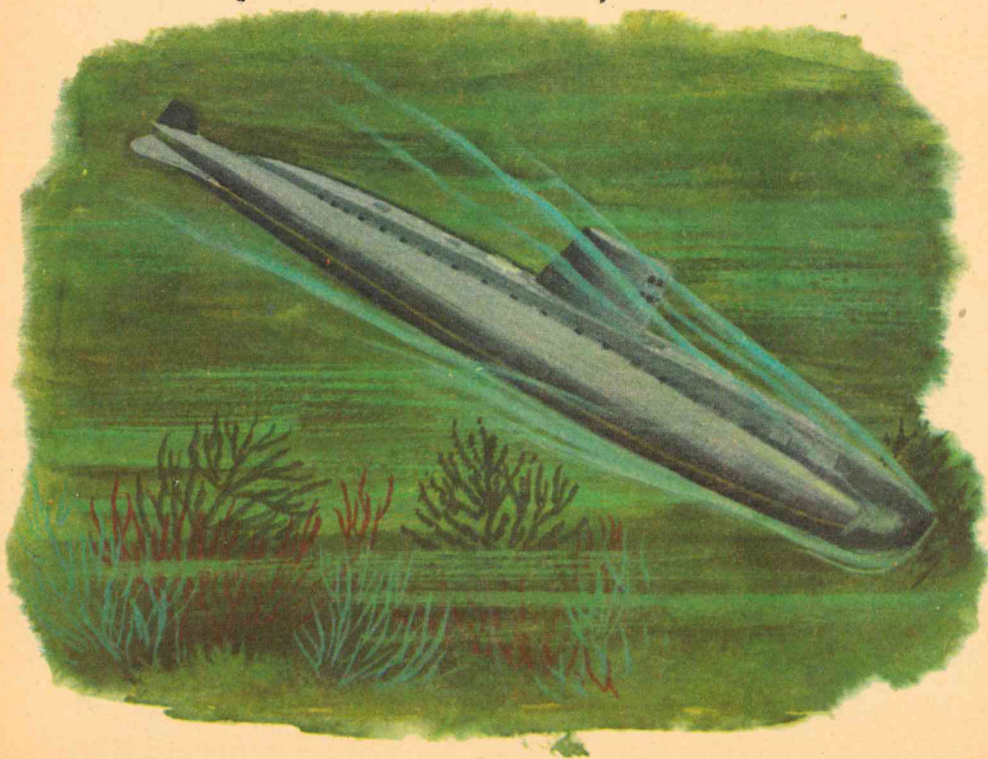
A submarine has a periscope.

Through it sailors on duty
can look around
above the surface
from down in the water.

There are no windows
to look out of
in a submarine.

Sailors on a submarine
must be men
who do not mind
being shut in.

They are brave sailors.





subway

A subway is a tunnel
with a roadway
for travel underground.

Some cities are very crowded.

The streets are full
of cars and trucks and buses.

Often the cars and trucks
and buses must go very slowly.

So men have dug tunnels.

Cars, trucks and buses
run in some of the tunnels.

Trains called subway trains
run in others.

They travel fast.

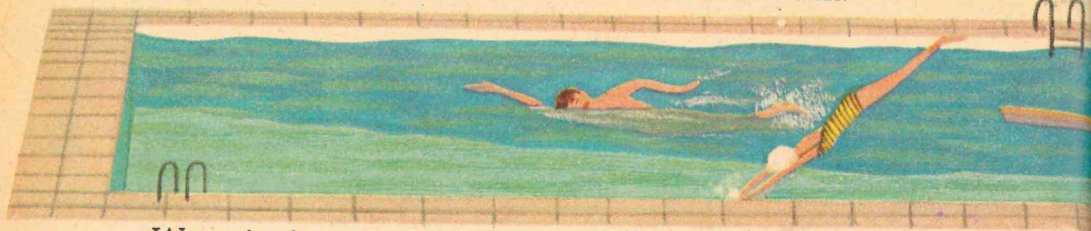
Sometimes a subway is called
an "underground"
or a "tube."

Subways must be well lighted.

For it is dark underground.

swimming

We have to learn
how to swim.



We swim in water.
We may swim
in a swimming pool.
We may swim in a lake.

First we learn
to lie down on the water.
We float.
Floating is fun.



We may swim
at the seashore.
(See *lake* and *sea*.)
But we should never
go swimming alone.

Then we learn to kick
our legs.
We learn to pull ourselves
ahead with our arms.
We are swimming.
What fun it is!

